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**Sergio Yanez**

Project Charter

Speech-to-Code

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# END PRODUCT DESCRIPTION

My project proposal is a piece of software that would allow a programmer to input code into a computer or their IDE of preference with only using their voice. The program would register conventions and direct syntax to create code snippets and straight up lines of code in a manner that is consistent and reliable.

# JUSTIFICATION AND BENEFITS

The most straight up benefit is the one that would help programmer get rid of the tedious part of writing code. The repetitive part of code of creating method for classes. Or class structures that could be reduced to simple voice commands. Just leaving the programmer to write the important parts. The ones that actually require thinking and not just typing.

# SPEECH-TO-CODE VS THE COMPETITION

## Code snippets

Code snippets are short commands or phrases that transform into bigger pieces. Speech-to-code will have to be responsive and fast enough to be preferable to write the snippet. Maybe just to be able to continue using speech-to-code instead of using the keyboard.

## Voicecode.io

Found this piece of software which actually does similar tasks to speech-to-code The only difference being that voicecode.io only words with statements and basic logic structures( if statements and loops). Seems like a good inspiration of how to implement and the user experience for speech-to-code.

**OBJECTIVES**

* Stage 1
  + Make the program get information from spoken text correctly.
* Stage 2
  + Organize and create spoken language equivalent to the syntax of a given language.
  + Implement syntax for statements.
* Stage 3
  + Implement syntax for bigger code structures (classes, and methods.)
  + Implement human-like speech equavent for syntax.

**BUDGET**

The people working on the project would require about 30 to 40 man hours to complete according to the syllabus. Hoping that there is a not block in development. The first stage should take about 3-6 hours. Stage 2 would be the longest one, which requires to research and get the spoken language figured out for the current and following stages. Also the implementation of direct commands to the computer for example: Registering character and variable names. This stage would take up to 20 hours.

Lastly stage 3 would also require a long time of development to get rid of the ambiguity of the phases to be used. And make it feel a bit more human. Because this stage isn’t as straightforward, the rest of the lab would have to tinker and refine the software for demonstrations and real life scenarios.

**ROLES AND RESPONSIBILITIES**

* Programmer
  + Implements the code in the software.
* Program Designer
  + Design interaction between data and files . (UML)
* Syntax researcher
  + Interviews other programmers, to find ideas of how to communicate with
  + to the computer. Come up with ways to represent how to describe code lines in normal English sentences.
* Tester
  + Responsible for adding test scenarios in testing to code and to actually interact with the program by simulating being a tester.

**CONCERNS, UNKNOWNS, AND RISK FACTORS**

## Concerns

My main concern is not to be able to detect if the software is to big for the time that is required to developed. Plus the possibility of overlooking something that is out of my knowledge. Lastly i would not like to have a piece of software that is working and functioning as intended but not intuitive enough to be used by actual users.

## Unknowns

My biggest unknown is how to use phonetics correctly. Followed the fact that i am not really that acquainted with making robust code parsers and data retrieval from code, which feel like a big part of the finding the correct data to write the code with the correct variables.

## Risk factors

Not finishing in time. Also wanting to make the code too big too soon.

**SIGNATURES**

Dr. Nigel Ward \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Sergio Yanez \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Team mate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_